

# **INSULATING SLEEVE**

Christopher K. Hall

Brenda F. Hall

## **Field of the Invention**

The present invention is directed to insulating devices, and in particular to an insulating sleeve for keeping a beverage cold, or alternatively, hot, and preventing sunlight from spoiling the beverage.

## **Background of the Invention**

The enjoyment of a beverage depends in many cases on whether or not the beverage can be kept at a temperature at which the beverage is meant to be enjoyed. That is, once a hot beverage becomes cold, or, conversely, a cold beverage becomes hot, the beverage is no longer enjoyed as much as it would have been if it remained at its intended temperature. Furthermore, it can be difficult to hold either a very cold beverage or a very hot beverage. Another particular issue with a beverage such as beer, when stored in a clear glass container such as a pint glass, is that exposure to sunlight can cause photodegradation, ruining its taste. It is useful, therefore, to have a way to insulate a beverage container so as to keep the beverage at the desired temperature, as well as to protect the holder's hand from the cold or hot

beverage in the container, and additionally protect the beverage from photodegradation by sunlight.

U.S. Patent No. 6,041,952 discloses an insulator wrap for a beverage container which is formed by a substantially rectangular body of insulation material. A self-coiling spring strip is embedded in the body along approximately the longitudinal center line. Because the spring strip is curved in lateral cross section, the wrap is held straight when uncoiled to allow easy storage and handling when not in use. Simple manual pressure frees the spring strip to self-coil inwardly to cause the wrap to extend around the container for use. Extended portions of the rectangular body isolate the spring strip from the edges of the body. In one embodiment, the extended body portions are one and one half times as wide as the spring strip. A foam insert is positioned within the elongated concave trough of the spring strip to provide a substantially smooth display surface for graphics and indicia in either the uncoiled or self-coiled states. Stiffening stays are embedded laterally across the ends of the body to provide additional snugging force and to hold the top and bottom corners of the body securely against the container during use.

U.S. Patent No. 5,390,804 is directed to an insulating device for longneck bottles having a lower cylindrical enclosure which telescopically receives an upper enclosure having a dome-shaped upper end and an opening therein of a diameter selected to determine the extent to which the upper enclosure slides down the bottle neck and hence the extent to which the upper enclosure extends into the lower enclosure.

U.S. Patent No. 6,554,155 discloses an insulating device for bottles having a lower cylindrical enclosure which telescopically receives an upper enclosure having a dome-shaped upper end, the upper and lower enclosures being provided with mating threads adapted to achieve a quick plunge insertion and sealing feature.

U.S. Patent No. 5,579,949 is directed to a "C" shaped sleeve for insulating the hand while holding a beverage cup. A plastic molded shape having two broadened ends connected by a thinner central strip wherein the body is conically arrayed about an axis which intersects the center of the shape. The "C" shape is sized to be slightly under the diameter of a conventional hot beverage cup and to snap onto the sidewall of the beverage cup and hold in a spring like fashion.

U.S. Patent No. 5,845,804 discloses an insulator apparatus for a beverage container having a section of foam material with a generally rectangular configuration, a first self-coiling spring strip affixed adjacent to a top edge of the section of foam material, and a second self-coiling spring strip affixed adjacent to a bottom edge of the section of foam material. The first self-coiling spring strip is in generally parallel relationship to the second self-coiling spring strip. The first and second self-coiling spring strips operate so as to self-roll the section of foam material around an exterior surface of the beverage container. Each of the first and second self-coiling spring strips have a concave side and a convex side and the property that, when straightened, the spring strip holds a straightened shape and, when bent in a predetermined direction, the spring strip self-rolls to encircle

the beverage container. The first and second self-coiling spring strips are of identical configurations.

There is a need, however, for an insulating sleeve that can easily be wrapped around a beverage container and secured to the beverage container to keep a cold beverage cold, or a hot beverage hot, while simultaneously protecting the hand of a holder of the beverage from the temperature of the beverage in the container. The insulating sleeve would further protect the beverage, a beer for instance, from photodegradation by sunlight.

### **Objects and Summary of the Invention**

It is an object of the present invention to provide an insulating sleeve for a beverage that will keep the beverage at a desired temperature and prevent sunlight from causing photodegradation.

It is a another object of the present invention to provide an insulating sleeve having a first flexible layer, a second flexible layer, and a third flexible layer between the first and second flexible layers.

It is yet another object of the present invention to provide an insulating sleeve having a first flexible layer, a second flexible layer, and a third flexible layer between the first and second rectangular layers, wherein the first and second flexible layers can be attached to one another.

It is yet another object of the present invention to provide an insulating sleeve including a first flexible cloth layer, having a first side and a second side defined by a first straight edge, a second straight edge opposite the first straight

edge, a first curved edge, and a second curved edge opposite the first curved edge, the first and second straight edges being generally perpendicular to the first and second curved edges. It would further include a second flexible cloth layer, having a first side and a second side defined by a first straight edge, a second straight edge opposite the first straight edge, a first curved edge, and a second curved edge opposite the first curved edge, the first and second straight edges being generally perpendicular to the first and second curved edges, wherein the first straight edge, second straight edge, first curved edge, and second curved edge of the second flexible layer are attached to the first straight edge, second straight edge, first curved edge, and second curved edge of the first flexible portion, respectively, a third flexible foam rubber layer disposed between the first flexible layer and the second flexible layer, a first fastener disposed upon the first side of the first flexible layer proximate to the second straight edge, and a second fastener disposed upon the second side of the second flexible layer proximate to the first straight edge of the second flexible layer.

In accordance with a first aspect of the present invention, a novel insulating sleeve is provided. The insulating sleeve includes a first flexible layer, a second flexible layer, and a third flexible layer disposed between the first and second flexible layer.

In accordance with another aspect of the present invention, a novel insulating sleeve is provided having a first flexible layer having a first fastener, a second flexible layer having a second fastener, and a third flexible layer disposed

between the first and second flexible layers. The first fastener and the second fastener being capable of engaging one another to secure the first flexible layer to the second flexible layer.

In accordance with yet another aspect of the present invention, a novel insulating sleeve is provided. The insulating sleeve includes a first flexible cloth layer, having a first side and a second side defined by a first straight edge, a second straight edge opposite the first straight edge, a first curved edge, and a second curved edge opposite the first curved edge, the first and second straight edges being generally perpendicular to the first and second curved edges. It further includes a second flexible cloth layer, having a first side and a second side defined by a first straight edge, a second straight edge opposite the first straight edge, a first curved edge, and a second curved edge opposite the first curved edge, the first and second straight edges being generally perpendicular to the first and second curved edges, wherein the first straight edge, second straight edge, first curved edge, and second curved edge of the second flexible layer are attached to the first straight edge, second straight edge, first curved edge, and second curved edge of the first flexible portion, respectively, a third flexible foam rubber layer disposed between the first flexible layer and the second flexible layer, a first fastener disposed upon the first side of the first flexible layer proximate to the second straight edge, and a second fastener disposed upon the second side of the second flexible layer proximate to the first straight edge of the second flexible layer.

### **Brief Description of the Drawings**

The foregoing summary, as well as the following detailed description of a preferred embodiment of the present invention will be better understood when read with reference to the appended drawings, wherein:

FIGURE 1 is a perspective view of an insulating sleeve in accordance with the present invention.

FIGURE 2 is an exploded perspective view of the insulating sleeve of FIGURE 1.

FIGURE 3 is a perspective view of the insulating sleeve of FIGURE 1 shown on a beverage container.

### **Detailed Description of a Preferred Embodiment**

Referring now to the drawings, wherein like reference numerals refer to the same components across the several views, and in particular to FIGURES 1 and 2, there is shown an insulating sleeve 10. The insulating sleeve 10 includes a first flexible layer 11, a second flexible layer 21, and a third flexible layer 31.

The first flexible layer 11 has a first side 12 and a second side 18 defined by a first straight edge 14, a second straight edge 15, a first curved edge 16, and a second curved edge 17. The first straight edge 14 and the second straight edge 15 are generally opposite one another. Likewise, the first curved edge 16

and the second curved edge 17 are generally opposite one another, with both the first straight edge 14 and the second straight edge 15 being generally perpendicular to the first curved edge 16 and the second curved edge 17. The first curved edge 16 and the second curved edge 17 have generally concentric radii with the arc length of the first curved edge 16 being slightly longer than the arc length of the second curved edge 17. A first fastener 13 is mounted on the first side 12 of the first flexible layer 11 proximate to the second straight edge 15. The first fastener 13 is generally rectangular in shape and substantially flat. In a preferred embodiment of the present invention, the first fastener 13 may be one component of a hook and loop fastener system, such as VELCRO<sup>®</sup>, however, any fastener known to one of ordinary skill in the art may be employed as the first fastener 13. The first flexible layer 11, in a preferred embodiment of the present invention is formed from a cloth material, however, it can easily be seen by one of ordinary skill in the art that any suitable flexible material may be employed to form the first flexible layer 11.

The second flexible layer 21 has a first side 22 and a second side 28 defined by a first straight edge 24, a second straight edge 25, a first curved edge 26, and a second curved edge 27. The first straight edge 24 and the second straight edge 25 are generally opposite one another. Likewise, the first curved edge 26 and the second curved edge 27 are generally opposite one another, with both the first straight edge 24 and the second straight edge 25 being generally perpendicular to the first curved edge 26 and the second curved edge 27. The first curved edge 26 and the second curved edge 27 have generally concentric



radii with the arc length of the first curved edge 26 being slightly longer than the arc length of the second curved edge 27. A second fastener 23 is mounted on the second side 28 of the second flexible layer 21 proximate to the first straight edge 24. The second fastener 23 is generally rectangular in shape and substantially flat. In a preferred embodiment of the present invention, the second fastener 23 may be one component of a hook and loop fastener system, such as VELCRO®, however, any fastener known to one of ordinary skill in the art may be employed as the second fastener 23. In particular, given a hook and loop fastener system, the second fastener 23 would be the corollary to the first fastener 13. That is, if the first fastener 13 were the hook portion, the second fastener 23 would be the loop portion, and vice versa. The second flexible layer 21, in a preferred embodiment of the present invention is formed from a cloth material, however, it can easily be seen by one of ordinary skill in the art that any suitable flexible material may be employed to form the first flexible layer 21.

The third flexible layer 31, in a preferred embodiment, is formed of a foam rubber material and is disposed between the first flexible layer 11 and the second flexible layer 21 as illustrated in FIGURE 2. The third flexible layer 31 is substantially similar in shape to both the first flexible layer 11 and the second flexible layer 21 and generally smaller in area than both the first flexible layer 11 and the second flexible layer 21 so as to fit in between them. The first flexible layer 11 and the second flexible layer 21 are attached to one another with the third flexible layer 31 disposed in between. More specifically, the second side 18 of the first flexible layer 11 faces the first side 22 of the second flexible layer 21.

The first straight edge 14, the second straight edge 15, the first curved edge 16, and the second curved edge 17 of the first flexible layer 11 are attached to the first straight edge 24, the second straight edge 25, the first curved edge 26, and the second curved edge 27 of the second flexible layer 12, respectively. In a preferred embodiment of the present invention, the first flexible layer 11 and the second flexible layer 21 are sewn together at their respective edges. However, any means known to one of ordinary skill in the art may be employed to fasten the first flexible layer 11 to the second flexible layer 21. In a preferred embodiment of the present invention, the third flexible layer 31 is formed of a foam rubber material, however any suitable material known to one of ordinary skill in the art may be used to form the third flexible layer 31.

Referring now to FIGURE 3, the insulating sleeve 10 is shown disposed about a beverage container G. In this configuration, the second side 28 of the second flexible layer 21 of the insulating sleeve 10 engages the surface of the beverage container G to insulate the beverage contained in the beverage container G and keep it at its desired temperature. The first fastener 13 of the first flexible layer 11 engages the second fastener 23 of the second flexible layer 21 to secure the first flexible layer 11 to the second flexible layer 21 around the beverage container G. In a preferred embodiment of the present invention, the beverage container G is a glass, such as a pint glass, however the insulating sleeve 10 may be used to insulate any sort of beverage container G known to one of ordinary skill in the art. The insulating sleeve 10 is wrapped around the beverage container G such that a portion of the bottom of the beverage container

G is left uncovered. Due to the fact that the arc length of the second curved edge 17 of the first flexible layer 11 and the second curved edge 27 of the second flexible layer 21 are smaller than the arc length of the first curved edge 16 of the first flexible layer 11 and the first curved edge 26 of the second flexible layer 21, the insulating sleeve 10 will be securely held onto the beverage container G and will not slide upward when the beverage container G is lifted.

In view of the foregoing disclosure, some advantages of the present invention can be seen. For example, a novel insulating sleeve is disclosed. The insulating sleeve can be wrapped around a beverage container, such as a pint glass to keep the beverage in the container at a desired temperature and the hands of the beverage holder safe from the temperatures of the beverage in the beverage container. In addition, the novel insulating sleeve described will protect a beverage, such as a beer, from exposure to sunlight, which will cause photodegradation of the beverage.

While the preferred embodiment of the present invention has been described and illustrated, modifications may be made by one of ordinary skill in the art without departing from the scope and spirit of the invention as defined in the appended claims. For example, in a preferred embodiment of the present invention, a hook and loop fastener system, such as VELCRO® has been described, however any fastening means known to one of ordinary skill in the art may be employed. Additionally, a two part fastening means utilizing a hook and loop system has been described, but it can readily be seen by one of ordinary skill in the art that a single fastener, such as the hook portion of a hook and loop

fastener system can be disposed on one of the first or second flexible layers which would fasten directly to the cloth on the other of the first and second flexible layers.